

WHAT IS CLAIMED:

1. A lighting head assembly comprising:

a receiver sleeve having a first end and a second end, a tubular side wall having an interior surface, said tubular side wall extending between said first and second ends and a substantially planar end wall at said first end, said end wall having an interior surface, an exterior surface and an aperture in said end wall;

a non-reflective coating on said interior surfaces of said side wall and said end wall; and

a lighting element having an output end, said output end of said lighting element received in alignment with said aperture adjacent said exterior surface of said end wall.

2. The lighting head assembly of claim 1, wherein said output end of said lighting element is substantially entirely on the exterior side of the plane of said end wall, wherein light output from said lighting element is directed into said aperture.

3. The lighting head assembly of claim 1 wherein said aperture includes a central axis and said lighting element includes an optical axis, said optical axis of said lighting element being aligned with said central axis of said aperture.

4. The lighting head assembly of claim 3, wherein said output end of said lighting element is substantially entirely on the exterior side of the plane of said end wall, wherein light output from said lighting element is directed into said aperture.

5. The lighting head assembly of claim 1, wherein said lighting element is a light emitting diode.

6. The lighting head assembly of claim 1, wherein said non-reflective coating is a flat black coating.

7. The lighting head assembly of claim 1, further comprising:

a lens adjacent said second end of said receiver sleeve, whereby said lens captures a circular image of the light output in said aperture and said interior surface of said end wall and projects said circular image into the far field of said lighting assembly thus providing a circular illuminated spot having a clearly defined edge.

8. The lighting head assembly of Claim 7, wherein said lens has a focal length and is coupled to said second end of said receiver tube, said side wall of said receiver tube maintaining said lens at a fixed distance from said end wall, said fixed distance being approximately equal to said focal length of said lens.

9. The lighting head assembly of claim 1, further comprising:

a tubular tail portion extending from said exterior side of said end wall concentric to said aperture, said output end of said lighting element received in said tail portion, wherein said output end of said lighting element is substantially entirely on the exterior side of the plane of said end wall, wherein light output from said lighting element is directed into said aperture.

10. The lighting head assembly of claim 9, further comprising:

a lens adjacent said second end of said receiver sleeve, whereby said lens captures a circular image of the light output in said aperture and said interior surface of said end wall and projects said circular image into the far field of said lighting assembly thus providing a circular illuminated spot having a clearly defined edge.

11. The lighting head assembly of Claim 10, wherein said lens has a focal length and is coupled to said second end of said receiver tube, said side wall of said receiver tube maintaining said lens at a fixed distance from said end wall, said fixed distance being approximately equal to said focal length of said lens.

12. A lighting assembly comprising:

a receiver sleeve having a first end, a second end and an interior surface,
an end wall at said first end of said receiver sleeve, said end wall having an interior surface, an exterior surface and an aperture therein;

a lighting element having an output end, said output end of said lighting element received in alignment with said aperture adjacent said exterior surface of said end wall, wherein light output from said lighting element is directed through said aperture such that the light entering the receiver sleeve through the aperture does not impinge on the interior surface of said end wall; and

a lens adjacent said second end of said receiver sleeve, wherein said lens captures and projects a circular image of the illuminated aperture and said non-illuminated end wall forming a clearly defined beam cut-off edge thus providing a circular illuminated spot having a clearly defined edge in the far field of said lighting assembly.

13. The lighting assembly of claim 12, further comprising:

a tubular tail portion extending from said exterior surface of said end wall concentric to said aperture, said output end of said lighting element received in said tail portion, wherein said output end of said lighting element is substantially entirely on the exterior side of the plane of said end wall, wherein light output from said lighting element is directed into said aperture.

14. The lighting assembly of claim 12, further comprising:

a non-reflective coating on said interior surfaces of said receiver sleeve and said end wall.

15. The lighting assembly of claim 14, wherein said non-reflective coating is a flat black coating.

16. The lighting assembly of claim 12 wherein said aperture includes a central axis and said lighting element includes an optical axis, said optical axis of said lighting element being aligned with said central axis of said aperture.

17. The lighting assembly of claim 12, wherein said lighting element is a light emitting diode.

18. A flashlight assembly comprising:

a housing having a first end and a second end;

a receiver sleeve received into said first end of said housing, said receiver sleeve having a first end, a second end, an interior surface and an end wall at said first end of said receiver sleeve, said end wall having an interior surface, an exterior surface and an aperture therein;

a mounting board adjacent said exterior surface of said end wall of said receiver sleeve, said mounting board having first and second electrical contacts thereon;

a power source received in said second end of said housing, said power source in electrical communication with said first and second electrical contacts on said mounting board;

a lighting element having an output end and first and second contact leads extending therefrom, said lighting element mounted to said mounting board such that said first and second contact leads are in electrical communication with said first and second electrical contacts respectively, said output end of said lighting element being in alignment with said aperture adjacent said exterior surface of said end wall, wherein light output from said lighting element is directed through said aperture such that the light entering the receiver sleeve through the aperture does not impinge on the interior surface of said end wall;

switching means to selectively energize said lighting element; and

a lens adjacent said second end of said receiver sleeve, wherein said lens captures and projects a circular image of the illuminated aperture and said non-illuminated end wall forming a clearly defined beam cut-off edge thus providing a circular illuminated spot having a clearly defined edge in the far field of said flashlight.

19. The flashlight of claim 18, further comprising:

a tubular tail portion extending from said exterior surface of said end wall concentric to said aperture, said output end of said lighting element received in said tail portion, wherein said output end of said lighting element is substantially entirely on the exterior side of the plane of said end wall, wherein light output from said lighting element is directed into said aperture.

20. The flashlight of claim 18, further comprising:
a non-reflective coating on said interior surfaces of said receiver sleeve and said end wall.
21. The flashlight of claim 20, wherein said non-reflective coating is a flat black coating.
22. The flashlight of claim 18 wherein said aperture includes a central axis and said lighting element includes an optical axis, said optical axis of said lighting element being aligned with said central axis of said aperture.
23. The flashlight of claim 18, wherein said lighting element is a light emitting diode.